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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,818	09/19/2003	Luke Martin Leonard Porter	014469-9015-00	6628
<div>7590 04/09/2007 Luke Martin Leonard PORTER 46 Margaret Grove, Harborne Birmingham, B17 9JL UNITED KINGDOM</div>			<div>EXAMINER LEROUX, ETIENNE PIERRE</div>	
			<div>ART UNIT 2161</div>	<div>PAPER NUMBER</div>
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	04/09/2007	PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/665,818	PORTER, LUKE MARTIN LEONARD	
	<b>Examiner</b>	<b>Art Unit</b>	
	Etienne P. LeRoux	2161	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,6-12,15-18,20-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 2,6-9,15-18 and 20-22 is/are rejected.
- 7) ☐ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Status***

Claims 2, 6-12, 15-18, 20-22 are pending: claims 1, 3-5, 13, 14 and 19 have been canceled. Claims 2, 6-9, 15-18, 20-22 are rejected as detailed below. Claim 12 is allowable and claims 10 and 11 have been objected to.

***Allowable Subject Matter***

Claim 12 includes allowable subject because of the claimed time cube.

Claims 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10 and 11 include allowable subject because of the claimed time cube

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 6-9, 15-18, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,924,103 (Ahmed et al), hereafter Ahmed.

Claims 8 and 9:

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Ahmed discloses a temporal data dictionary having a set of objects associating specific entities in said database with specific functionality-related parameters which are used in controlling how a processor handles a query related to said entities, said temporal data dictionary maintaining data integrity [work-in-progress library 26, Fig 1, col 2, lines 10-20]

Claim 15:

Ahmed discloses including time as a characteristic associated with values of attributes of entities on said database

achieving update and delete of start time and end time of values of attributes of entities by using inserts, adding to the database, to achieve logical update and logical delete, without any requirement for actual code-level update and actual code-level delete operations, and wherein all logical delete update and insert operations are achieved by physical data operations inserting new values of attributes and inserting new start times and/or end times associated with the new values without altering existing start times or end times stored in the database [work-in-progress library 26, Fig 1, col 2, lines 10-20]

Claim 16:

Ahmed discloses achieving logical update and delete operations on said start and end times stored in the database by inserting new entries in the database without altering existing entries in the database [work-in-progress library 26, Fig 1, col 2, lines 10-20]

Claims 17 and 18:

Ahmed discloses:

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storing for each value a start of valid time from which the value applies [Fig 3, start time/end time 42], and a transaction time at which the start of valid time applies [Fig 2, transactions are shown in time]

performing logical update [update type 44, Fig 3] or delete of the start of valid time by performing an insert operation to insert a new entry into the database having a modified start of valid time [col 4, lines 15-25]

Claims 2, 6, 7, 21 and 22:

Ahmed discloses performing updating and deleting logical operations on the values of attributes by inserting into the database a new insert summary position with a new particular transaction time with out altering any existing summary position [library, col 2, lines 10-20, Fig 1, 26], logical update and delete of valid start time and valid end time for a value of an attribute being achieved by inserting the new summary position with a different valid start time or valid end time that is to be true for the new particular transaction time [Figs 2 and 3]

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed in view of admitted prior art (APA).

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Claim 20:

Ahmed discloses permitting insert only operations on the database, with alter and/or delete functionality performed by insert-only addition of another value of an attribute held in a certain field in an additional; field differentiated from other fields for the same attribute by its associated transaction time

selecting an appropriate field for access by selecting an appropriate transaction time, as well as selecting said attribute to be queried or modified, logical update or delete operations being achieved by an insert of a new database entry having a different transaction time, the previous entries remaining unchanged [Fig 1, 26, Figs 2 and 3]

Ahmed discloses the elements of the claimed invention as noted above but does not disclose locking the field being accessed for modification and not locking other fields in a row that contains the field being accessed for modification, this being achieved by associating a transaction time with information in each field, said transaction time being related to a system time at which the information was inserted into the database. APA discloses locking the field being accessed for modification and not locking other fields in a row that contains the field being accessed for modification, this being achieved by associating a transaction time with information in each field, said transaction time being related to a system time at which the information was inserted into the database [col 1, lines 45-55]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ahmed to include locking the field being accessed for modification and not locking other fields in a row that contains the field being accessed for modification, this being achieved by associating a transaction time with information

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in each field, said transaction time being related to a system time at which the information was inserted into the database as taught by APA for the purpose of ensuring data consistency.

### ***Response to Arguments***

Applicant's arguments filed 3/19/2007 have been fully considered but are moot based on above new grounds of rejection.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne P. LeRoux whose telephone number is (571) 272-4022. The examiner can normally be reached Monday through Friday between 8:00 am and 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Etienne LeRoux

4/3/2007

*Etienne P LeRoux*  
*primary examiner*





## Replacement Sheet

1/118

128

# Y Time

—126

124

122

120

FIG. 1

118

132

**Z Dimension= entities**

104

106

108

110

112

114

116

132

130

# X Time

102